

Work Order ID 57150

March 24, 2010 8:41:45 AM



Page 1

Item ID: D1038-58B

Accept



Setup Start

Revision ID:

Stop

Item Name: Fastener Rail, Black

Start Date: 24/03/2010 Start Qty: 100.00



Cust Item ID:

Required Date: 31/03/2010 Req'd Qty: 100.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D1038

Rev B

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Create white labels and bag them

CL 10/05/12

110

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut extrusion D2023 to length 21.81" (+0.06/-0.00)

10/03/29

PTO

120

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1- Mill as per Folio FA783 Rev: *AA* & Dwg D1038 Rev: *B*
2-Deburr per dwg D1038

10/03/30

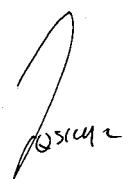
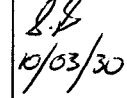

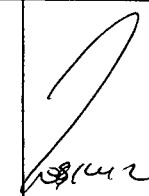
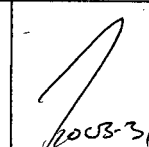
100

2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D1038-58B PAR #: _____ Fault Category: Machining NCR: Yes No DQA: _____ Date: 10/06/02
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: _____ Date: 10/06/02

NCR: <u>57150</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/03/30	120	2 parts is too short. Ex. Cutting Blank too short on Jeaspaw saw P.C. 60A - not a process, only 2 on 100 parts.		Replace Batch <u>21907</u> Qty 2.	 10/03/30	 10/03/31		 10/03/31

NOTE: Date & initial all entries

March 24, 2010 8:41:45 AM



Accept



Setup Start



Stop

[illegible]**Cust Item ID:**[illegible]

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



**Insp.
Stamp**

0.00



Memo

0.00

L.F 10/03/30

100

2

Quality Control

0.00



Memo

0.00

DIP 10/03/31

100

2

Quality Control

0.00



Memo

0.00

Small Fab

Deburr

8/31/04/16 (96x)

 $\rho_{10} \rightarrow$

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D1038-58B PAR #: _____ Fault Category: Unmachining NCR: Yes No DQA: _____ Date: 10/06/02
 Resolution: SCVAP Disposition: Scrap QA: N/C Closed: _____ Date: 10/06/02

NCR: <u>57150</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/04/02	#150	Found at Deburring qty x4 Parts have at one end dia 0.168 ± .050 measuring .142" and total length is measuring 21.680"		→ 4 parts will crack when installed 3 m 00280.050. Scrap + Debur qty x4	 10/04/02			
		RL parts were cut too short. in op. #110 - test process 		No replace 				

NOTE: Date & initial all entries

Work Order ID 57150

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Item ID: D1038-58B

Accept



Setup Start



Revision ID:

Stop



Item Name: Fastener Rail, Black

Start Date: 24/03/2010 Start Qty: 100.00



Cust Item ID:

Required Date: 31/03/2010 Req'd Qty: 100.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	S104/19			cont x96 asp019			
170 Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1 Memo Issue P/O: 11715 Black Anodize as per Dwg D1038	0.00 0.00							PS 10-4-20 (409) 96
180 Packaging Packaging	Receive & Inspect for Damage & Mat'l Certs Memo	0.00 0.00							PL 10/4/27 (409) 96

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 57150

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Item ID:	D1038-58B	Accept		Setup	Start	
Revision ID:						
Item Name:	Fastener Rail, Black				Stop	
Start Date:	24/03/2010	Start Qty:	100.00			
Required Date:	31/03/2010	Req'd Qty:	100.00			
Reference:						
				Cust Item ID:		
				Customer:		

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 QC Quality Control	QC3- Inspect Part Finish <i>alc</i> Memo	0.00 <i>5.00/0.05</i> 0.00				<i>counter</i> <i>496</i>			
200 Small Fab Small Fab	Small Fab Memo 1-Stake .050 stainless steel wire per Dwg D1038-58 using DT8389 Batch: <i>11111948</i> 2-Grind wire flush and deburr 3-Clean	0.00 0.00							<i>ES 10/05/10</i> <i>95</i>
210 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				<i>counter</i> <i>495</i> <i>QSP019</i>			<i>PTO-7</i>

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D1038-58B PAR #: _____ Fault Category: machined parts NCR: Yes No DQA: _____ Date: 1005-11
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: Yes Date: 10/06/02

NCR: <u>57150</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>10/05/02</u>	<u>#200</u>	Found qty x1 at. with one end to be too thin at installing steel wire. going to R. not found before going to	<u>[Signature]</u>	Scrap + Destroy no rework (the lot is for that). Qty +1	<u>EB</u> <u>10/05/02</u>	<u>S</u> <u>10/05/02</u>	<u>[Signature]</u>	<u>S</u> <u>10/05/02</u>
		Andon - LOA Approved.						

NOTE: Date & initial all entries

Work Order ID 57150

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Item ID: D1038-58B

Accept



Setup Start



Revision ID:

Stop



Item Name: Fastener Rail, Black

Start Date: 24/03/2010 Start Qty: 100.00



Cust Item ID:

Required Date: 31/03/2010 Req'd Qty: 100.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

220

0.00



Packaging

Packaging

Memo

0.00

Packaging

1-Pack each fastener rail into a cardboard tube
2-Roll Part in foam.
3-Install red cap at each end and secure with tape.
4-Apply white labels to cardboard tubes
5-Identify and Stock
Location: 121

10-5-13 S/ 925x

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/05/13 MF
10-5-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March 24, 2010 8:41:49 AM

Page 1

Work Order ID: 57150



Parent Item: D1038-58B



Parent Item Name: Fastener Rail, Black

Start Date: 24/03/2010

Required Date: 31/03/2010

Comments: IPP: E 03.05.02 Reformat; Added label KJ/RF
IPP Rev:F 06-08-16 Updated Packaging Procedures JLM
IPP Rev:G 08-09-16 Added Folio # JLM Verified by:EC

Start Qty: 100.00

Required Qty: 100.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2023		Manufactured	No			110	f	2,110.200	190.3000			
Extrusion, Fastener Rail												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

MAT

21907

2110.2

2110.2

70.300 on 10/03/29.
720 H Scrap Material
S.F 10/03/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

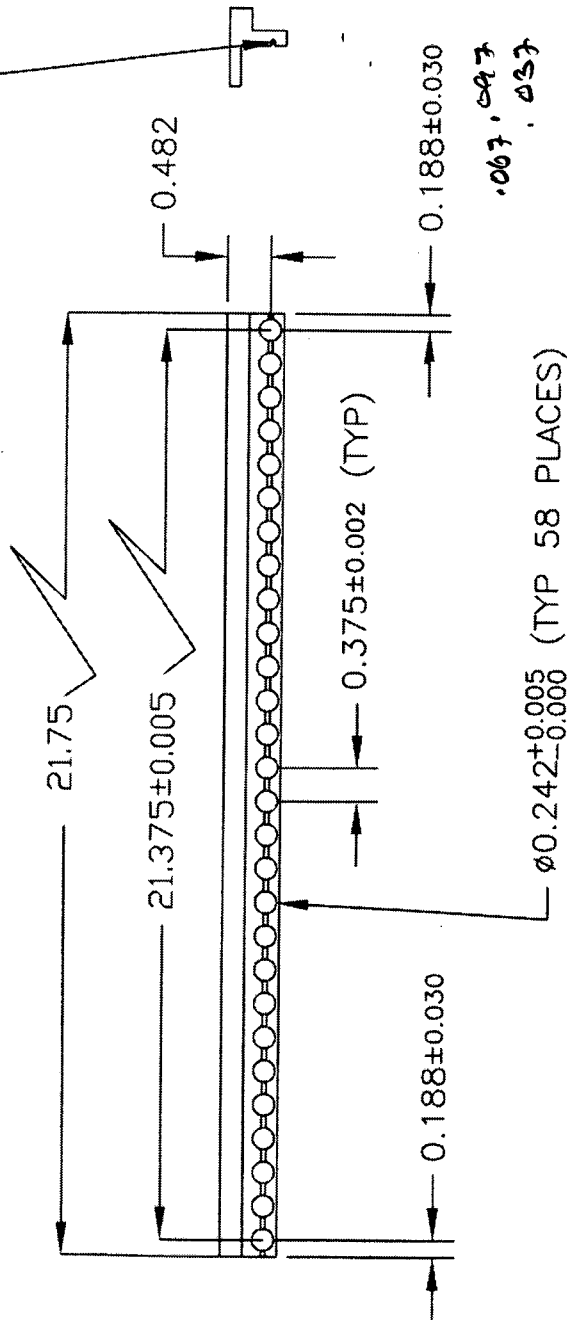
DART

DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D1038	REV. B SHEET 1 OF 1
DATE 05.02.02		TITLE 1/4 TURN FASTENER RAIL	SCALE NTS
	91.05.05	NEW ISSUE	
A	04.05.14	UPDATE TOLERANCE	
B	05.02.02	REDRAWN, UPDATE NOTES	

RELEASED

05.03.31 #

STAKE $\phi 0.50$ TYPE 302 STAINLESS
STEEL WIRE FULL LENGTH
(REF DART SPEC M302SW.050)



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 57150
BS10-3-24

D1038-58 1/4 TURN FASTENER RAIL

- 1) MAKE FROM D2023 EXTRUSION
- 2) FINISH: D1038-58 - NONE
D1038-58B - ANODIZE BLACK PER DART QSI 017 4.1.10
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) ALL TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO11715

Purchase Order Date 20/04/2010

PO Print Date 20/04/2010

Page Number 1 of 1

Order From :

VC-AND002

ANODIZING & PAINT T.N.M. INC.
21 AVIATION ROAD
POINTE CLAIRE, QC H9R 4Z2
CA

FIXED
C2d4b1

Contact Name

Vendor Phone

514 429 7777

Vendor Fax

514 429 5108

Vendor Account Nbr

Buyer

Brigitte Golden

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	57150	D1038-58B BLACK FASTENNER RAIL	27/04/2010 Yes	100.00	Purolator ground	\$1.2500	\$125.00

Special Inst: Anodize per MIL-A-8625F Type I or IB or
IC or II or IIB Class 2
Per DWG: D1038 Rev: B
B# 57150

PO Total:

\$125.00

Change Nbr:

1

Change Date: 20/04/2010

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

PRODUCT SPECIFICATIONS FOR PURCHASING

REFERENCE ONLY

AND PRODUCTION USE

Procedure Issue Date: 04.12.02 Issue No: 05

4.1.8 LABELS

- 4.1.8.1 Labels for exterior use shall be manufactured from 3M 7 mil Masking Film #8522CP or Avery IPM #2031.

4.1.9 PLATING

- 4.1.9.1 Cad Plating is to be done per QQ-P-416F Class 1 Type II.

- 4.1.9.2 Zinc Plating is to be done per QQ-P-325C Class 1 Type II.

4.1.10 ANODIZING

- 4.1.10.1 Anodize per MIL-A-8625F Type I or IB or IC or II or IIB Class 2

4.2 ALTERNATES

These alternatives are acceptable unless otherwise stated on a drawing. Any substitutions not listed below require engineering approval.

- 4.2.1 The following are interchangeable: 80-007-15, SL3159-4A-15, K100H4A95-15, FT5215-12A-15, and FIT7623-4A-15

- 4.2.2 Avibank inserts ALS7-XXXX-YYY may be used interchangeably with ALS4-XXXX-YYY, AKS7-XXXX-YYY, and AKS4-XXXX-YYY or Interfast AELS-XXX-YYY. For example, ALS7-1032-130 may be used interchangeably with ALS4-1032-130, AKS7-1032-130, AKS4-1032-130 and AELS-032-130 inserts and ALS7-1032-225 may be used interchangeably with ALS4-1032-225, AKS7-1032-225, AKS4-1032-225 and AELS-032-225 inserts. Locking inserts (designated by an L at the end of the part number i.e. ALS7-1032-130L) may be substituted for non-locking inserts (ie. ALS7-1032-130) with approval from Engineering only.

- 4.2.3 MS21042L? can be used interchangeably with the corresponding MS21042-?
E.g. MS21042L4 for MS21042-4
MS21042L? are non-interchangeable with MS21042L0?
E.g. MS21042L6 cannot be changed with MS21042L06

- 4.2.4 5052-H34 AND 5052-H32 can be used interchangeably.

- 4.2.5 MS21919WDG and MS21919DG are interchangeable.

- 4.2.6 ANXXX-XJ, ANXXX-XK, and ANXXX-XC can be used interchangeably
MSXXXXX-XJ, MSXXXXX-XK, and MSXXXXX-XC can be used interchangeably

- 4.2.7 BLC3C15S and BLRS-002 can be used interchangeably

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Packing Slip

21 chemin de l'Aviation, Pointe-Claire

QC H9R 4Z2

Canada

Phone:514-429-7777 Fax:514-429-5108

Email:info@tnminc.ca

DATE

PACKING SLIP #

4/23/2010

- 84822



BILL TO:

SHIP TO:

DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY ON K6A 1K7

No. De Commande/PO#	CUST	TERMS	REP	SHIP	VIA	F.O.B	JOB NUMBER
11715	0094	NET 30		5/4/2010	Purolator		124896-001

PO Line#: 01

QTY DUE	QTY SHIPPED	QTY B/O	DESCRIPTION
100 96 c210/5/4	100	0	P/N:D1038-58B TNM-REV:P1 BLACK ANODIZE S. d. 10/5/14

Sign Here: _____

En cas de perte ou de dommages dû à la valeur intrinsèque de certaines pièces, la responsabilité se limitera à deux fois la valeur du traitement des pièces perdues ou endommagées.

Due to the intrinsic value of some parts, we are only liable for loss or damage to twice the invoiced finishing costs.

Packing Slip PACK01 REV: PACK01



Anodisation & Peinture TNM Inc
21 chemin de l'Aviation, Pointe-Claire QC H9R 4Z2
Telephone 514-429-7777 Fax 514-429-5108
AS9100 Rev B Certified QMS, Nadcap, Chemical & NDT

C of C: 84822

4/23/2010

CLIENT / CUSTOMER:

DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY ON K6A 1K7

**CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE**

**PURCHASE ORDER /
NO. DE COMMANDE:**

11715

ITEM	COMMANDE ORDERED	EXPEDIE SHIPPED	PART NUMBER & DESCRIPTION PROTECTIVE FINISH CODES	PART PROCESS & TREATMENT
1	400 96 C2101514	400 96	P/N: D1038-58B TNM-REV:P1 57150 FASTENER RAIL	BLACK ANODIZE PER MIL-A-8625F1 TYPE II CLASS 2 ALL OVER

S 10/05/02

Nous certifions que les pièces énumérées ont été traitées, testées et inspectées selon les spécifications mentionnées.
Les cartes de travail ont été remplies et sont disponibles pour consultation, sur demande.
All parts are processed, tested, and inspected to the requirements of above specifications.
Travel cards have been filled and are available for viewing upon request.
NOTE: Les pièces peintes seront complètement résistantes au solvant après 7 (sept) jours complets de séchage à l'air ambiant.

NOTE: Painted Parts will be Fully Solvent Resistant after 7 (seven) Full Days of Air Curing at Ambient Temperature.

Signature/Signed:

Directeur de la Qualité / Q.A. Manager